

# PATENT ABSTRACTS OF JAPAN

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H04B 10/16

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(22)Date of filing : 25.08.2000 (72)Inventor : HAYASHI ETSUKO  
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## (54) OPTICAL AMPLIFIER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a control algorithm to broaden a frequency band using a plural exciting light wavelengths or excitation light sources when performing Raman amplification, and also to simply perform a constant output power control, a constant gain control, and a wavelength characteristic flattening control so that the wavelength characteristic is flattened or has a specific gradient.

**SOLUTION:** This invention permits a wavelength characteristic deviation control between the output power and a gain, the constant output control, and the constant gain control using a simple control algorithm by breaking exciting light generation means into blocks, and dividing an input/output monitoring wavelength frequency band of signal light into the number of the blocks of the exciting light generation means or more and not more than the number the signal channels to monitor the signal light.

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## LEGAL STATUS

[Date of request for examination]

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2-2の出力パワーを $P_1$ 、  
波長を $\lambda_1$ 、屈曲光波の  
平均出力パワーを $P_2$ 、  
クリーの平均波長 $\lambda_2$ とする。  
式(2)より、  
$$\frac{P_1}{P_2} = \frac{4\pi^2 n^2 \lambda_1^2}{\lambda_2^2} \cdot \frac{1}{\sin^2 \theta} \cdot \frac{1}{1 + \frac{4\pi^2 n^2 \lambda_1^2}{\lambda_2^2} \cdot \frac{1}{\sin^2 \theta}}$$

分離した各波長域に相当する出力パワーピークの強度を測定する。測定結果によれば、各波長域に相当する出力パワーピークの強度は、各波長域に相当する出力パワーピークの強度と一致する。このことより、各波長域に相当する出力パワーピークの強度は、各波長域に相当する出力パワーピークの強度と一致する。このことより、各波長域に相当する出力パワーピークの強度は、各波長域に相当する出力パワーピークの強度と一致する。



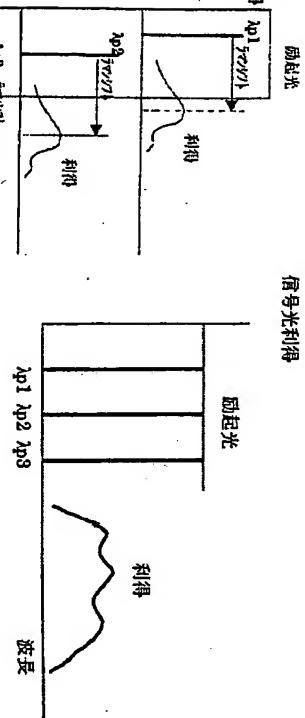




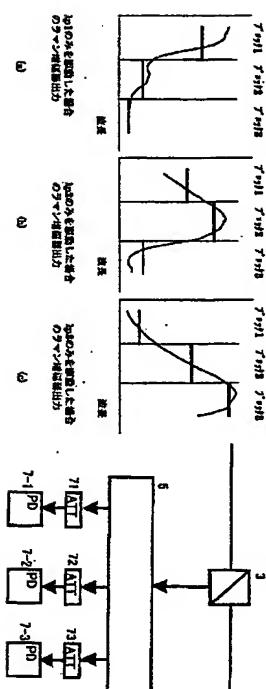
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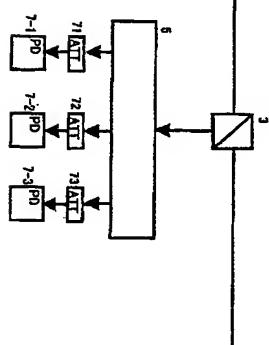
[図2]



[図4]

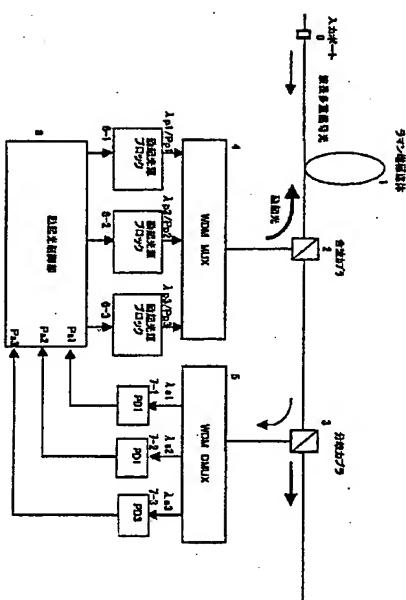


[図11]



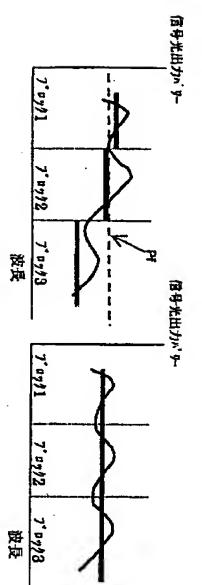
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[図3]

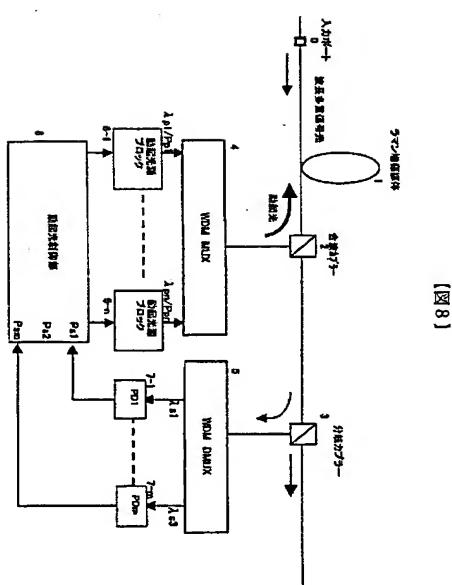


[図3]

[図6]

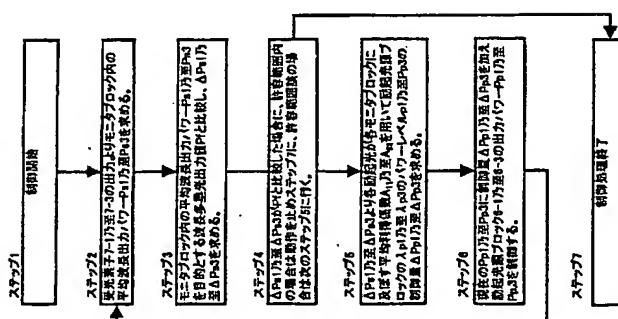


(a) (b)

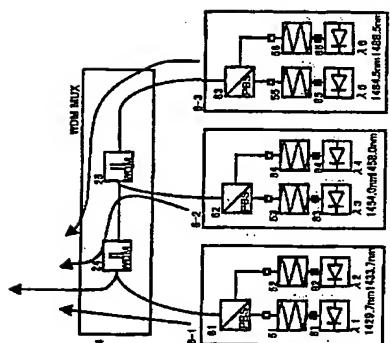


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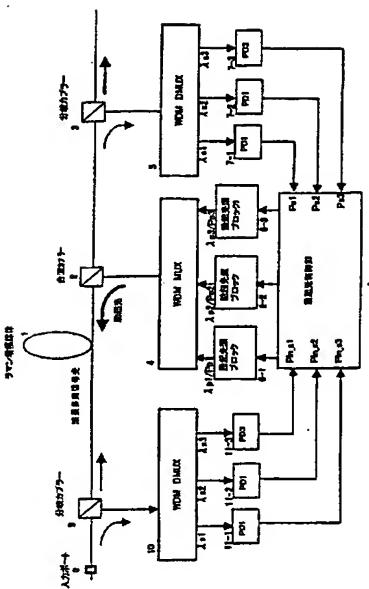
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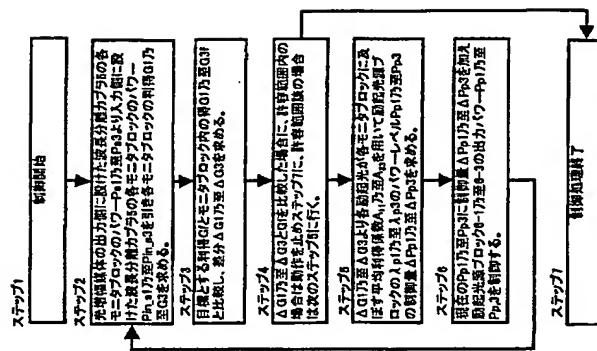
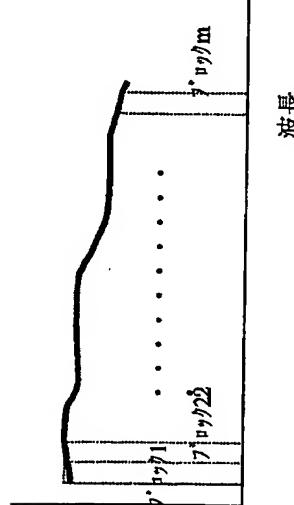


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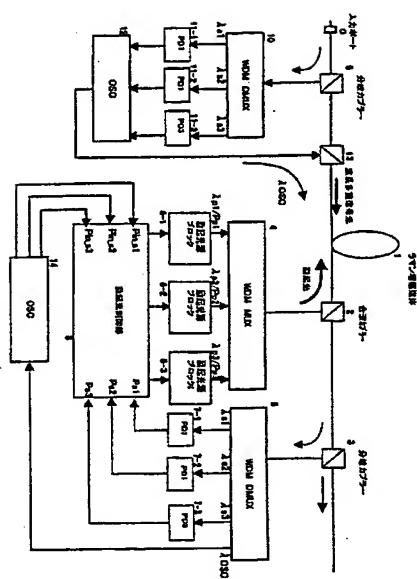


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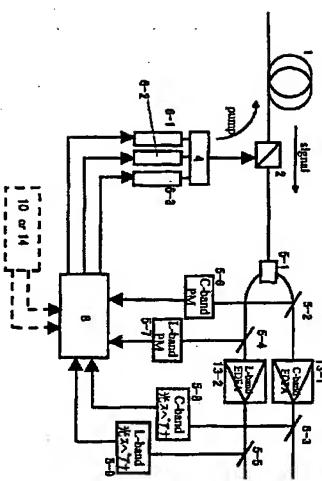
卷之三



[図14]



[図15]



## フロントページの構成

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